/NOTE: As every year, a number of the articles in the March issue are oriented around International Women's Day (8 March). Tr./

p 5: "LINES OF THEIR LIFE," by N. Grigor'yeva. Both mother and daughter were radiowomen. The mother, Yelena Pavlovna Molozhayeva, as a 20-year-old orphan, entered a radiomen's course at the Kursk Society of Friends of Radio /Obshchestvo druzey radio/ and became attracted to on-the-air operation at collective station EU2KBF. The daughter, Lyudmila Pavlovna Fedorova, never thought she would follow her mother's profession, but she did, serving, as did her mother, in civil aviation. Lyudmila worked in a number of locations in the Arctic and became a speed Morse operator: in 1979 she became the champion of Yakutiya. Both mother and daughter are also writers; Lyudmila wrote the next-following article.

p 6: "RADIOSPORT IS ALIVE AND WELL IN TIKSI," by L. Fedorova. Due to the unpredictability of propagation conditions in the Arctic, you don't know whether whether your receiver is out of commission or whether it's one of the regular blackouts on all amateur bands. On account of the high winds, sometimes reaching 35 - 40 meters per hour, multi-element antennas don't hold up. For this reason the GP is used the most, the LW less often. ... For the time being the only collective station in Tiksi is UKØCAN. It belongs to the North-Eastern Administration of the Merchant Fleet and went on the air just recently. Its chief is Aleksandr Yelagin, radioman of the steamship "Gornyak." On of the most active hams in Tiksi is Boris Khatsevich (pictured), UAØCWJ, an airport dispatcher. Another is Vasiliy Gusev, UAØCCJ, radioman at Tiksi airport. At the Tiksi Administration of the Weather Service there are three radioamateurs: Radik Batyrshin, UAØCES, chief of the communication center, Vladimir Makarenko, UAØCAV, senior engineer, and Nikolay Fedorov, radiooperator.

p 8: "COLLECTIVE STATION/"KOMSOMOL'SKAYA PRAVDA." /Message from G. N. Seleznev, Chief Editor of "Komsomol'skaya Pravda."/ The appearance on the air of this station is one of the numerous examples of the traditional friendship and creative cooperation between the Komsomol /the party youth organization - Tr./ and DOSAAF. /Pilot-Cosmonaut L. S. Demin, Hero of the Soviet Union, is shown using the station at the official opening of UK3KP./

pp 9 - 10: "THE SPACE AIRWAVES CALL," by S. Voskobovnikov, chief of UK9FAA, DOSAAF United Technical School, Perm'. Some hams have the mistaken impression that "super" equipment and antennas are required to operate via satellite. That this is not so was shown in an experiment performed during the Second All-Union Shortwave Radiocommunication In-place/Over-the-airwaves Competitions for the "Radio" Magazine Prize, held in Kaunas, when a group of satellite communication enthusiasts carried out demonstration QSO's via satellite. Among the enthusiasts were A. Borisov, UA9FDZ, and the writer.

The equipment we brought to Kaunas took up slightly more table space than a UW3DI-type transceiver -- two two-band transceivers (28 and 144 MHz) constructed and prepared by UA9FDZ (one used as a receiver and the other as a transmitter), a direct-conversion receiver of RA3AAE construction, a power amplifier, a half-wave 28 MHz dipole, and an eight-element F9FT 144 MHz antenna. In two days we had more than 50 contacts.

In general, for RS QSO's any of the VHF transmitters described in "Radio" and having the segment 145.900 - 146.000 MHz (for operation via the repeater) and 145.800 - 145.850 MHz (for contacts with the robot) will do. Any receiver may be used if it covers the segment 29.3 - 29.5 MHz and has a sensitivity of not worse than 1 microVolt. Incidentally, experience shows that with this level of sensitivity the length of time during which satellite signals can be received is only 3 - 4 minutes shorter than with a receiver with a sensitivity of 0.3 microVolts.

Ordinary 144 MHz antennas may be used. The writer uses an F9FT antenna on 144 MHz and a dipole on 29 MHz.

Preparations for satellite operation begin with a calculation of coverage zones, bench-mark /reference? -- repernaya trassa/ paths, ascending nodes and azimuths for entry of the satellite into the coverage zone, in accordance with the detailed descriptions by V. Dobrozhanskiy in his articles in "Radio" #3/1982 and #6/1982.

Another way is to listen for the beacons, whose frequencies are: RS3 - 29,320 kHz; RS4 - 29,360 kHz; RS5 - RS6 - 29,450 kHz; RS7 - RS8 - 29,500 kHz. The beacons transmit telemetry information. If after the letter "K" there appear two zeros, the repeater is turned off. If any other digits are transmitted, it is accessible. .....

Fairly frequently satellite signals are received beyond the coverage zone of a satellite, either due to secondary repeating from one satellite to another, or to distant propagation on 28 and 144 MHz.

The writer and other operators have repeatedly noted, during the flight of the satellite through polar areas, that the c.w. signal sometimes changes suddenly into an Aurora tone and SSB signals become so distorted as to be unintelligible. Taking advantage of Aurora, A. Borisov, UA9FDZ, has been able to have QSO's with K1HTV/3, W1NU, WA8DX, VE6KY, and others, with whom under normal conditions satellite contacts would not be possible since they are located outside of the coverage zone /"beyond the borders of the doubled radiovisibility zone from the center of Perm'"/.

What is the attraction of satellite operation for the hams of many countries? On the one hand there is a precise time for QSO's, totally independent of propagation, on the other hand it is totally unknown what station you will work, and the most exotic countries are possible -- I don't think the most ardent DX-er would refuse to write call-signs such as TF3KR or CN8CX in his log.

The satellites have opened up new possibilities for diploma /certificate/ hunters. Presently, the QSO diplomas R-10-R, R-15-R, R-100-O and others are issued for satellite operation with a special seal, and the "Kosmos" /"Space"/ diploma is issued exclusively for space repeater operation and for QSO's with the robot.

p 10: "WHAT THE ROBOTS ARE TELLING ABOUT," by L. Labutin, UA3CR.

Flying over our planet at a speed of over 20,000 kph, the robots aboard RS5 and RS7 in less than 12 hours /???/ have time to listen for amateur signals from all countries of the world -- maybe someone's calling them. Since launch, they have carried out more than 5,000 contacts with hams from all continents.

All contacts are recorded in the robots' electronic memory -- an on-board logbook as it were -- and this information is transmitted to Earth on a regular basis. And here, at the Central Reception/Command Center of DOSAAF USSR /Tsentral'nyy priyemno-komandnyy punkt DOSAAF SSSR/ in Moscow, it is kept, now in written form, as proof of the activity of the automatic space machines. Just what do these recordings have to say?

Radioamateurs from North America carried out the most contacts (50%) with the robots, those from Europe 30%, from Asia 15%, and from Africa, South America, and Oceania 5%.

Soviet shortwavers accounted for 12% of the QSO's with the robots. Those from the Zero call-sign district were the most active with 38% of all contacts with U stations. UAØLFK, RAØLFI, and UAØLBI contact them very often. Next follows the 4th call-sign district with 21%, led by UW4NI. Hams from the 3rd district accounted for 17% and from the 9th district 9%. Less than 10% of the QSO's were with amateurs of the 1st and 7th districts, and very few QSO's -- less than 10 contacts -- were accounted for by the 2nd, 5th, 8th, and 6th districts.

Of the foreign radioamateurs in the RS logs, the call-sign of the American shortwaver N4AR is met the most often. He has perhaps had more contacts with the robots of RS5 and RS7 than anyone else.

Active operators include OK3AU, LZ1AB, YO2IS, VE5XU, G3IOR, W1NU, N2AA, K1NTV, DL3BJ, DL1CF, DL1CR, JH7CKF, JA9YAP, ZS6NS, ZS6AO, ZS6AXT, PY2FFC, HC1BI, NP1AC, 9M2CR.

Interestingly, 9M2CR, after carrying out a number of QSOs with the robots, sent to the Central Reception/Command Center of DOSAAF USSR a detailed description of his technique for establishing contact with them.

p 11: "FORECASTING ASCENDING NODES," by L. Matsakov, RB5LAL, Khar'kov. /Description of procedure for calculating ascending nodes of the "Radio-3" - "Radio-8" satellites with an "Elektronika B3-21" microcalculator; values are given./

p 12: "CQ-U." /Translator's note: The "RS*RS*RS" section of the "CQ-U" column is published separately, in this issue of RADIO, from the rest of the "CQ-U" column appearing on pages 21 - 23 (see below). It is not known at this point whether this practice is to be continued in future issues./

"RS*RS*RS," section conducted by L. Labutin, UA3CR.

"QSO's via RS."

Letters have begun to come in in response to the editors' request to amateurs (see CQ-U in RADIO #10/1982) operating via the "Radio" satellites. Unfortunately, by no means all such operators have had advised of their achievements. For some reason, UV3EH, UD6DFD, UA9FDZ, UC2CED, UP2BCE, UB5PAC, and many others active users have remained silent.

The mail received by RADIO indicates that the ratio of confirmed QSO's also remains low. Here is what A. Vorzenko, UB5MAW, writes: "I've been operating via the radioamateur satellites since the first day of their launch. I've completed over 1400 QSO's. But I've received ~~only~~ QSL's from only 105 stations. Up to present even those operators with whom I established contact via "Radio-1" and "Radio-2": UT5DL, UK3ABI, UA9HG, RA3JT, RO5OAA, UA6HDQ, UA4AC, UB5NC, UA4UK, UA3VB, UB5ECM, UK1AAA, UQ2AN, and others. I haven't even received QSL's from RS3A (!) for ~~operating~~ working the robots, or from participants in the high-latitude expedition of 'Komsomol'skaya Pravda.'"

have not sent their QSL's

The editors hope that by the time the next table is prepared (as of 15 May 1983), they will have received a greater number of reports, authenticated by the local FRS, ~~the~~ a DOSAAF radiotechnical or united technical school, a technical-sport club, or by two radioamateurs having individual call-signs.

/~~E~~Translator's note: The five columns of the table contain call-sign, number of ~~stations~~ stations worked, number of oblasts worked, number of countries worked, and points./

UB5MAW	105	25	21	315	UA6ALT	36	17	14	191	UK3UAA	21	9	9	111
UL7GAN	44	22	20	254	UK9SAD	42	13	13	172	UK3MAV	34	5	9	104
UR2JL	57	18	21	252	UK3QBW	31	8	10	121	UK2RBT	13	9	7	93
										UK3QBD	8	2	6	48

"Chronicle."

As reported by the radioman of the 27th Soviet Antarctic ~~Expedition~~ Expedition at Leningradskaya Station, S. Malyshev, 4K1G took to the space airwaves on 4 December. 4G1G's first QSO via "Radio" satellite was with VK7KF. During a complete fading of ~~shortwave~~ shortwave propagation on 20 December, 6 QSO's were completed in a period of 20 minutes with VK7DK, VK7PF, and VK7LZ. At the end of December the Antarctic station "Molodezhnaya" was worked.

M. Mikhalenkov, UAØBBN, operates ~~via~~ via satellite from Cape Chelyuskin, the northernmost point on the European continent. His first QSO's via RS date back to 1979. He uses a 12-element beam.

On 27 September 1982 good propagation on the 10m band was observed, evidently accounting for the fact that telemetry information transmitted by the RS6 radiobeacon was heard almost twice as far away as usual.

p 12: "SIMPLIFIED MEANS OF CALCULATING," letter to the editor from A. Saychuk, UB5KBC, from Korets, Rovenskaya Oblast'. /The writer gives formulas he uses for calculating satellite ascending nodes using a pocket calculator./

pp 12 - 14: "TWENTY YEARS LATER," by S. Aşlezov, Minsk. The "Captain of the Airwaves" at the "Distant Countries" Youth Radio Club (the unusual name of the club comes from a novel of the same name by Arkadiy Gaydar in which two little boys, Vas'ka and Pet'ka, dream of faraway countries) is actually a retired colonel, Yakov Isaakovich Aksel', UC2BF, who created the club and whose teaching skill attracts young people to amateur radio. The club station, presently UK2AAB and headed by Candidate Master of Sport of the USSR Sergey Misilevich, UC2AAX, went on the air 12 March 1963 and will use special call-sign EW2A from 1 through 15 March 1983.

p 15: "REPORT FROM THE RADIOCONSTRUCTORS OF RUSSIA," by G. Golovaneva, responsible secretary, All-Union Radioexhibitions, and A. Shabalin, UA3TJ, chairman of the jury of the All-Russian Radioexhibitions. /About new equipment of many kinds introduced by radioamateur constructors of the RSFSR. At the end of the article the writers note the little shortwave equipment was displayed and no ultrashortwave equipment at all, evidently indicating that by no means all DOSAAF committees, local federations of radio sport, and technical-sport clubs understand the importance of the further development of radioamateur construction./

p 16, first page of insert opposite: "WORK OF THE SKILLED ONES FROM THE UKRAINE," by N. Tartakovskiy, chairman of the Ukrainian FRS, and S. Bunin, chairman of the jury of the XIIth republic exhibition. Well-known Ukrainian sportsmen V. A. Beketov, UB5JIN, V. A. Skrypnik, UY5DJ, L. N. Dmitriyevskiy, UB5YBX, A. V. Kotlyarov, UB5EW, and a number of others exhibited modern transceivers with digital readouts and with wide dynamic bandspreads /??? -- imeyushchiye bol'shoy dinamicheskiy diapazon/; this was high-quality shortwave and ultrashortwave equipment. Yu. R. Medinets, UB5UG, true to his constructor skills, presented a version of his transceiver that operates on any of the bands from 160m to 23 cm. An interesting control panel was presented by G. A. Chliyants, UY5XE. A wideband shortwave receiver was presented by Ye. V. Yavon, UB5RBB.

p 17, second page of insert opposite: "COAXIAL LOAD EQUIVALENT," by S. Rumyantsev, RA3DQA, Pushkino, Moscow Oblast'.

pp 18 - 20: "HIGH-EFFICIENCY ULTRASHORTWAVE ANTENNAS," by K. Fekhtel, UB5WN, Kiev.

p 21: "SSB SIGNAL GENERATOR," by V. Polyakov, RA3AAE, Moscow.

pp 21 - 23: "CQ-U."

INFO*INFO*INFO, section conducted by A. Gusev, UA3-170-461.

RESULTS OF THE CHAMPIONSHIP OF THE USSR. Results of the XXXVIIth Telegraph Shortwave Radiocommunication Championship of the USSR: National champion: The well-known shortwaver from Leningrad, Master of Sport International Class G. Rumyantsev, UA1DZ; second place: L. Krupenko, UAØQWB, from Mirnyy, Yakutskaya SSR /sic: ASSR - Tr./; third place: K. Khachaturov, UW3HV, from Moscow. Their scores are higher than that of last year's champion, UM8MAO. First place among collective stations: UK6LAA, from Rostov-on-the-Don; second place: UKØQAA, from Yakutsk (which came in tenth last year); third place: UK2PCR, from Kaunas. First place among observers: A. Val'chenko, UA3-121-1251, from Voronezh; second: O. Usov, UA9-154-1134, from Sverdlovsk; third: A. Korpachev, UA9-084-200, from Ufa.

MAGAZINE AWARDS. For the second time, RADIO magazine is awarding prizes to shortwavers who showed the best results in shortwave telephone and telegraph championships of the USSR. First among individual-station operators: G. Khonin, UL7QF, from Alma-Ata; second: UA1DZ; third: UAØWAS. Collective stations: UK6LAZ and UKØCBE. Observer: A. Val'chenko, MS UA3-121-1251, from Voronezh. /The first named in each category received a prize./

DIPLOMAS. /Rules for the "Zakarpat'ye" certificate, established by the FRS of Zakarpatskaya Oblast'./

PREDICTIONS OF RADIOWAVE PROPAGATION FOR MAY, by G. Lyapin, UA3AOW.

SWL*SWL*SWL, section conducted by A. Vilks. /Sub-sections on diplomas (certificates) received and achievements of SWL's./

VHF*UHF*SHF, section conducted by S. Bubennikov.

EME-QSO's.

/Full text./

During the summer, EME communication enthusiasts continued their efforts. In the process, QSO's with European and North American ultrashortwavers became almost a common occurrence. But then on 26 June UA1ZCL contacted YV5ZZ. This was the second contact with Latin America in the USSR.

Interesting events occurred 14 and 15 August. A new (besides UG6AD and UD6DFD) EME station appeared on the air -- JA6DR, who used a rather unusual type of antenna for the 144 MHz band -- a 10-meter parabolic. The 8 x 9 element F9FT antenna is approximately equivalent to it. Yugoslav radioamateur YU1AW also uses a barabolic, but a 12-meter one. Practically all the U's have worked him EME. On 15 August a sked between UB5JIN and JA6DR was kept after 12 to 14 minutes (signal level 1 to 2 dB), after which a line formed on the frequency of the Japanese radioamateur -- Y22ME, F6BSJ, and many others wanted to make the rare contact.

Meanwhile at 2014 UT, from a bearing of 10° (angle /??? - ugol mesta/ 1.5°, UA1ZCL heard CQ from VK5MC with a signal level of 6 dB. VK5MC, who has a stationery, 200-meter, rhombic antenna, could operate only toward the USA and Canada. UA1ZCL, located beyond the Arctic Circle, was in that sector, unlike other stations in Europe. The "window" to the Australian ultrashortwaver, taking into account his stationery antenna and the movement of the Moon, existed for about 20 minutes. But this will fully sufficient to establish a NEW USSR RECORD FOR ULTRASHORTWAVE DISTANT COMMUNICATION AT ULTRASHORTWAVE -- 14,000 KM!

After putting up a new 4 x 13 element antenna with a preamplifier using a low-noise transistor, UJ8JKD on 14 August recorded on tape his first "Moon" signals, from KI7D. Many, here in the country as well as abroad, are waiting for a QSO with this first EME-communication enthusiast in Central Asia.

On 6 September UA1ZCL for the first time in the USSR fulfilled the conditions for the R-6-K diploma! He nabbed the missing continent by working ZS6ALE. He got another new country six days later by working HB9SV. This same station was worked, among others, the same day, by UA3TCF.

At an ultrashortwave conference that took place following the in-place RSFSR Championship at Berezniki, UA3TCF spoke of the peculiarities of operating via the Moon. The most appropriate and available type of EME antenna in his opinion, and the type he uses, is an 8 x 9 element F9FT (2 layers /"storeys"/, 4 rows, measuring 2 x 6 x 3 m). It provides a gain of not less than 20 db, has an SWR of 1.2, and a directivity lobe of 10° on the horizontal and 20° on the vertical, and rotates in two planes. The receiver must have a noise coefficient of 0.8 dB although sometimes up to 2 to 2.5 dB is permissible. The reception of the weakest "Moon" signals is possible with a strength of 6 dB lower (!) than the noise level in a bandwidth of 600 Hz. The Doppler

frequency shift in the signal caused by the motion of the Moon is about 0.4 kHz. Fading on account of the slow rotation of the wave polarization surface /??? iz-za medlennogo vrashcheniya ploskosti polyarizatsii volny/ occurs approximately 20 minutes per hour. Contacts occur by sked (on the VHF Net Saturdays and Sundays beginning at 1800 UT on 14345 kHz; coordinator in Europe SM7BAE, in America VE7BQH), as well as without sked. A sked lasts 1 hour and consists of two-minute cycles. In the first cycle Europeans transmit, in the second Americans, and so on.

After a three-year break, operation in the USSR via the Moon on 430 MHz has newly resumed. As you probably recall, the operators at UK2BAS were active here earlier. Now UA3LBO has put up a new antenna of his own construction consisting of 16 x 22 elements (measuring 4 x 4 x 3.9 m, directivity lobe 4.5° on the horizontal and 6.5° on the vertical), with rotation in both planes. On 2 October he heard, on 430 MHz and reflected from the Moon, the signals of F9FT, YU1AW, I5MSH, and numerous other stations from Europe and the USA. On 6 - 8 November UA3LBO's first contacts took place, with I5MSH, YU1AW, K2UYH, N9AB, SM3AKW, F9FT, YU2RGC, JA6CZD, ZE5JJ, DL9KR, and DL[illegible]C. THE QSO WITH K2UYH OVER A DISTANCE OF 8750 KM BETTERED THE FORMER ALL-UNION RECORD THAT BELONGED TO THE OPERATORS OF UK2BAS. [illegible] —/DL7YC/ /End of EME item, end of full text./

"TROPO."

The first of the autumn Tropos was noted in Belorussia 11 September by UC2ABN and RC2WBR, with a direction toward the south-west (OK and YU). Late on the night from 14 to 15 September, RC2WBR unexpectedly detected a narrow channel tropo that stretched all the way to England! One carried out 30 QSO's with G's, PA's, and DK's. At 0032 UT a contact with G4GFX provided a NEW ALL-UNION "TROPO" DX QSO ACHIEVEMENT -- 1943 KM! On 430 MHz, RC2WBR worked the FRG for the first time -- DK5AI. On 15 September propagation took in the entire 2nd call area as well as the western part of the 3rd and 5th call areas of the USSR. On 144 MHz RC2WBR worked OK's, OE's, HG's, Y2's, OZ's SM's, YU's, and on 430 Y22ME, DL7ZL, OZ1FER, OZ7IS, OZ9FW, OK1AIY/p, and OK1AUN/p! xxx

UR2GZ had his most interesting QSO's with PAØRDY, YU3TCK, YU7AR, HGØDG, UB5WCF/p, UB5WAL/p, and UB5WAJ/p. At about the same time, UA3LBO began to operate; on 16 September on 430 MHz alone he had 15 QSO's over distances up to 1300 km with OK's and OE's.

UP2BJB writes "...Very often I went over to 430 MHz, where I first contacted DL4EA, DF3EE, and G4BAH, and then many G's, PA's OZ's, DK's, OK's, LA's, SM's, and Y2's... In all on 144 MHz 140 QSO's (ORB up to 1700 km and more), on 430 54 QSO's. Incidentally, the contact with G3BVY PERMITTED THE ESTABLISHMENT OF THE NEW USSR RECORD FOR DX TROPOSPHERIC COMMUNICATION IN THE 430 MHZ BAND -- 1712 KM!" UP2BJB didn't forget 1215 MHz either: He worked SM6ESG (720 km) and OK1AIY/p (800 km). In addition, he heard on that band, but did not work, PAØEZ (1250 km) and G3LQR (1500 km). Too bad that a new record for the USSR and Europe was not established for the 1215 MHz band.

CHRONICLE.

The Collectives at UK5EFL and UK5ECZ from Krivoy Rog are continuing their experiments on SHF. On 6 August they conducted a special outing to the shores of the Sea of Azov, taking equipment for 5.6 and 10 GHz. Contacts were established over a distance of 101 km. Thus a new category is established for the USSR RECORD FOR THE 5.6 GHZ BAND AND THE RECORD FOR 10 GHZ IS BETTERED. ... For 5.6 GHz a parabolic antenna with a 30 dB gain was used and transmitter power was 45 mW. For 10 GHz a 36 dB gain antennas was used and transmitter power was /also/ 45 mW.

In the /following/ table, a new item is introduced: "144 MHz - iono" which reflects achievements in DX communications established with the help of a previously little-known propagation mode -- ULTRASHORTWAVE SCATTERING CAUSED BY UNEVEN IONIZATION IN LAYER E OF THE IONOSPHERE (in foreign radioamateur literature this is called /begin English text/ Ionospheric Scatter By Field Aligned Irregularities (FAI), /end English text/ and also aurora E). ... The calculation of the QRB's for QSO's reported by U's (except Moon ones), as previously, was carried out on a YeS-1040 A computer by A. Tarakanov, UA3AGX.

Table of Achievements by Ultrashortwavers in Distant Ultrashortwave Communication.

144 MHz - "tropo" - 15.09.82 - RC2WBR/G4GFX - 1943 km (3025 km)

144 MHz - "aurora" - 26.09.82 - UC2ACA/G5BM - 2029 km (2138 km)

144 MHz - "meteors" - 12.08.77 - UW6MA/GW4CQT - 3099 km

144 MHz - "E_s" - 28.06.79 - UB5JIN/F6FZP - 2826 km (3864 km)

144 MHz - "EME" - 15.08.82 - UA1ZCL/VK5MC - 14 000 km (17 525 km)

144 MHz - "Iono" - 27.06.82 - UA1ZCL/DK3UZ - 2150 km

430 MHz - "tropo" - 15.09.82 - UP2BJB/G4GFX - 1712 km (1824 km)

430 MHz - "aurora" - 13.07.81 - UA3LBO/SM6EAN - 1276 km

430 MHz - "EME" - 6.11.82 - UA3LBO/K2UYH - 8750 km (18 437 km)

1215 MHz - "tropo" - 22.02.82 - UP2BJB/DF3XU - 878 km (1360km)

5640 MHz - "tropo" - 6.08.82 - UK5ECZ/UK5EFL - 101 km (217 km)

10 000 MHz - "tropo" - 6.08.82 - UK5ECZ/UK5EFL - 101 km (869 km)

Annex. From Sxx SP (Sovetskiy Patriot - Soviet Patriot), newspaper published twice weekly (Wednesdays and Sundays) by DOSAAF. News about amateur radio appears in three forms: In a column edited by Boris G. Stepanov, UW3AX, called NLD (na lyubitel'skikh diapazonakh - On the Amateur Bands); in a monthly column called "Airwaves Radioamateurs' Club" and which is abbreviated to "EFIR" plus the number of the month in which it appears (EFIR-4 for April); independent articles. The NLD columns are numbered serially and appear in SP of the same date.

NLD-1001, 30 March 1983.

Competitions.

In the WAE DX Contest, Soviet collective stations did well. The winner was UK2BAS. UK2PCR came in second, UK2BBB third, and UK6LEZ fifth. Among non-European participants, UK9AAN, UKØAMM, and UK9CAE took first, second, and third places: UK9FFR and UK7LAJ took fifth and sixth. UQ2GDQ took sixth place in the category individual stations in Europe; DK3GI was the winner. The shortwavers from the Asiatic part of the USSR did better then their European colleagues: UF6CR took second place, UA9IM fourth, UV9AX fifth, UL7CT 6th, UA9TS eighth, and UM8MDX ninth; the best in this category was W1ZM. CONGRATS! /"CONGRATS!" in English. Tr./

Soviet shortwavers took part for the first time in the HA QRP competitions and were not immediately successful. UB5CI had the best results (11,112 points) among individualx stations and UK3ACZ (6,714 points) among collective stations in the USSR.

Supplementing the rules for the first all-union satellite radiocommunication competitions (see issue No. 973), we advise that observers /SWL's - tr./ may participate as well. They must identify the call-sign of the station and the control number transmitted by that station, as well as the number of the satellite through which the QSO is carried out. The point count is the same as for station operators. Reference data for 10 April, when these competitions will occur, are given in EFIR-3 appearing in SP for 23 March.

Club News.

The Eleventh Technical-sport Conference of Radioamateurs of the Lithuanian SSR will take place in September of this year in Vil'nyus. Submitted by V. Vasheykis, UP2PX, Chairman of the Presidium of the FRS of Lithuania. /Translator's note: Baltic names such as this one are subject to distortion due to double transliteration from Cyrillic to Latin letters and back again./

Preparations have begun for the third phase of the "Pobeda-40" (Victory-40) Radioexpedition. On-the-air meetings of participants in the Battle of Kursk will take place Sundays at 1200 MSK /MSK normally equals UTC plus 3; it is not known whether MSK shifts forward one hour to UTC plus 4 in the summer period - Tr./ on 7,085 kHz or 14,140 kHz.

QSL cards for amateurs in the Kabardino-Balkarskaya ASSR are to be sent to the address: 360000, g. N Nal'chik, ab/yashch 29, QSL byuro /P. O. Box 29, 360000 NAL'CHIK/. Submitted by A. Kenzhekulov, UA6XCU.

From 4 to 8 April, activity days for Kaliningradskaya Oblast' will take place. Submitted by B. Amnuel', UA2FBM, Chairman of the Oblast' Federation of Radio Sport.

Distant Stations. /Details on operation of EE1ONS (42o 23' N/8o 53' W) as reported by A. Petrachenko, UB5IDW./

USSR

/Following full translation courtesy FBIS./

REPORT ON AMATEUR RADIO SATELLITES

Moscow SOVETSKIY PATRIOT in Russian 6 Apr 83 p 3

[Article entitled "Radio Satellite Orbit (Report from DOSAAF Space Technology Laboratory)" by O. Podkopayeva]

[Text] Overcoming the noise in the headsets, the callsigns are heard, first weakly and then more strongly. The amateur radio satellite "Radio-7" is on the air....

"This isn't one of the best revolutions," warned G.Gak, section head of the satellite control department of the DOSAAF scientific research laboratory for space technology (who was on duty that day in the equipment room of the central receiving and command points), "the satellite will remain in the zone of visibility for no more than 10 minutes."

Galina Yur'yevna hurriedly writes down the telemetry readings. The last row of numbers is entered in the log, and she puts the pen aside -- the decoding can be done later when there is no rush. The clear voice of the satellite has already fallen silent.

"In the zone of visibility? Could you really see it?"

"Unfortunately not -- we don't have the equipment for that. But you can see how new satellites are developed in Kaluga."

The DOSAAF social laboratory for space technology at Kaluga is located at the K.E. Tsiolkovskiy Museum of the History of Cosmonautics. The windows open out onto a beautiful view of the city and the banks of the Oka. In the center stands a table holding drawings, calculations and plans. Work stations, amateur radio equipment, instruments and consoles form a half-circle. And here's what looks like a new satellite: a yellowish cylindrical frame as tall as a man.

"No," smiles Aleksandr Pavlovich Papkov, a member of the social laboratory, "what you see there is only a prototype of the "Iskra" type satellite. It's not a new one either: its short life in space was over long ago. The new satellite is here on the bench."

Even using a lot of imagination, it was difficult to recognize the future "cosmonaut" in this metal box, which was only a little bigger than an automotive tool box filled precisely with a row of boards containing micro-circuits. Of course, this is not the satellite itself, but only its "innards". But this is not all. It is the brain of the device -- the logic unit. Together with the relay, that is to say the receiver and transmitter, it makes up the radio system. It still remains to "pack" everything into the appropriate case, hook up the power supply and antenna, and then the satellite will be ready.

The satellite has not yet been named. The name will be assigned prior to the launch and after the rocket has been built. Its arbitrary laboratory name is "Radio-9".

There are now about a million amateur radios in operation around the world. Their operating range and signal strength and quality depend upon atmospheric conditions, man-made interference, and the altitude of the ionosphere or, in other words, the "radio weather". Artificial satellites have now come to the aid of radio amateurs. The relays which they carry increase communications range significantly. With their help, the amateur can now communicate with a partner on another continent even with a low-power transmitter.

The first satellites -- "Radio-1" and "Radio-2" -- were launched in 1978. Their radio beacons have sent out their callsigns day and night. Thousands of conversations were made possible by these workers in the sky.

A new generation of satellites was launched soon thereafter -- the DOSAAF "Radio-3" -- "Radio-8", and the three "Iskra" satellites built at the Moscow Aviation Institute. Their overall appearance changed, and the construction became more complicated. For example, the "Robot" automatic answer-back device was added. An amateur can now establish contact with any other amateur on the ground, and with the satellite itself as well. The "Robot" transmits the contact number intelligently and in a businesslike way, responds to queries regarding audibility and sends the greeting "73", meaning "good luck", in a quite human way.

The popularity of amateur radio satellites continues to increase in the Soviet Union and abroad. The sphere of their application is also expanding. Work is underway to connect "Radio"-type satellites into a rescue and weather service system.

Eleven radio satellites have now been launched, all of which began their life here in Kaluga. Their telemetry systems were built by A.Papkov in

conjunction with radio amateurs V.Samkov, Ye.Senel'nikov, V.Suyzyumov and A.Komarov.

Aleksandr Pavlovich Papkov is an equipment calibrator at the "KEMZ" electromechanical plant at Kaluga, where he works on the same team as his chief assistant and friend V.Samkov. He devotes every minute, evening, day off and vacation to his hobby.

These skilled Kaluga amateurs have developed an original secondary power supply system, a timing device for deploying the antenna and a control console. The "Robot" device was also invented here. Under Papkov's supervision, an automatic recording device, or so-called bulletin board, has been developed for the satellites. This allows workers at the receiving command post to read a message stored in memory aboard the satellite several hours after it is originally transmitted, and to send a radiogram to a particular addressee in a sort of "printed envelope".

All of these innovations are already in use aboard the "Radio" satellite. Most of them will also be carried aboard the one now in the laboratory -- but will they be all?

"Our task is to make satellite communications accessible to as many amateurs as possible," says A. Papkov. "All of the previous satellites received and transmitted in the ultrashort wave band, while there are far more shortwave radios in use on the ground. For this reason, the "9th" will be set for the shortwave band. In addition, the relay circuit has been improved. The principle behind the command system has remained the same, but some details have been modernized. The "memory" of the automatic recording device aboard the new satellite will be expanded to 256 characters (the existing devices have 90-character memories). Two completely new devices have also been developed -- one makes it possible to receive telemetry data by teletype, thus making the operator's work easier at the receiving command post, while the second speeds up the transmission of text to the "bulletin board".

Aleksandr Pavlovich has meanwhile connected a small device to the console. The room is filled with the high notes of Morse code -- the voice of the new satellite. It is now fairly easy to imagine how the missing components will be added and how the satellite will take on the accustomed shape.... Oh yes, the shape.

"Aleksandr Pavlovich, how will your new baby look?"

"Unfortunately, I don't know. The housing of "Radio-9" won't be built here. While we were working on the "Iskra" the Moscow Aviation Institute sent us information on the external appearance of the satellite, and we adjusted the dimensions of the "innards" to match the parameters of the housing. Things are more complicated with the "Radio". The only thing I know for sure is what kind of antenna will be used."

NLD-1002, 6 April 1983.

Competitions. In the RSGB 21/28 MHz Telephony Contest, UB5EDF took second place worldwide, behind CN8CY. UB5QAV came in fourth and UA3DFK eighth. UB5-073-3135 won in the observer category: UB5-066-286 took second place and UB5-067-1457 fifth.

Ultrashortwave.

The beacon DKØWCY will operate on 10,144 kHz (or between 10,140 - 14,145 kHz in case of interference: it will operate on a secondary basis) during the entire World Communications Year /Vsemirnyy god svyazi/.

From 2200 to 2400 MSK 9 April and from 0000 to 0600 MSK 10 April the Belorussian Federation of Radio Sport will organize Ultrashortwave competitions on 430 MHz and 144 MHz respectively. Reports go to: 220079, Minsk, ul. Opanskogo, 52, RSTK DOSAAF, sudeyskoy kollegii UKV. Submitted by G. Grishchuk, UC2AAB.

Diplomas. The "Soviet North" diploma /this certificate is apparently for Soviet amateurs only - Tr./ has been established by the editors of ~~Sovxxxskaya~~ the newspaper "Sovetskaya Rossiya" /"Soviet Russia"/, the Sverdlovsk Oblast' Komsomol /party youth organization/ Committee, and the Oblast' FRS. Sixty points must be accumulated for contacts with stations of the transcontinental scientific-sports expedition of "Sovetskaya Rossiya." Contacts with the mobile group (EK9E) count 20 points and those with the base stations (EK9C and EK9D) 3 points for amateurs in the 1st, 9th, and Ø call areas and 5 points for others. Double credit is given for contacts on 40, 80, and 160 meters. The same station may be worked for credit on a different band or at a different location. The expedition stations will be on the air until 1 July.

NLD-1003, 13 April 1983.

Club News.

Activity Days will be held by the amateurs of Ul'yanovskaya Oblast' from 18 through 22 April.

In connection with the forthcoming celebration of the liberation of L'vov from the German-Fascist invaders, the Radio Section attached to the Technical Sport Club of the Zaliznichnyy rayon DOSAAF Committee in L'vov is looking for amateurs who took part in the liberation of the city and oblast'.

Distant Stations.

JW1UU, JW6MY, and JW5NM are active from the island of Spitzbergen. The last will be on the island for 2 to 3 more years. He is especially interested in the low-frequency bands and in contacts with rare oblasts of the USSR. He is trying to qualify for the R-100-O diploma and the seals "150 Oblasts" and "All Oblasts." UA9FAR is helping him in this. /Translator's note: The item does not indicate whether the amateurs are Norwegian or Soviet./

HG35HA will operate until the end of the year in commemoration of 35 years of the ~~xxx~~ amateur movement in Hungary.

NLD-1004, 20 April 1983.

Competitions.

The Helvetia-26 Contest will take place 23 - 24 April. /Rules for this contest are given./

Soviet sportsmen from the Asiatic part of the country did well in the WAE DX Contest. In the individual-station category

UF6CR won over all non-European participants. UA9CCI took 7th place, UM8MDX 8th, and UD6DJH 9th. In the collective station category UK9AAN took first place, UKØAMM 3rd, and UK7PAL 6th. For the European continent YU3MY was the winner, and only one Soviet sportsman -- UR2CD, who took third place -- was among the top ten. Among European collective stations Y24UK came in first, UK2BAS 2nd, UK2BBB 4th, and UK6LAZ 6th.

Club News. A "public technical information radio journal" is held Saturdays beginning at 2300 MSK on around 1895 kHz. Lectures are given and questions answered by UK3AAQ and UA3DA on radiosport and radiosport techniques, with special attention to the problems of beginning radioamateurs. All radioamateurs are requested to refrain from using a segment 3 kHz either side of the journal's working frequency.

EFIR-4/1983, SP, 20 April 1983, p 4.

"Information Booth."

Many amateurs are interested in the "Elektronika-T7-01" transceiver, briefly described over the station of the Central Radio Club, specifically its basic technical characteristics and when serial production is expected. The transceiver is intended for communication on all amateur shortwave bands on c.w. and SSB. It has both analogue and digital dials. Output power is about 20 Watts. With the exception of a GU-19 tube in the final, semiconductors are used. The design is based on the "KR8" transceiver created by a group from /KRS/ Kuybushev. It is planned to manufacture the T7-01 in kit form, at a price of 550 rubles /around US$750.00 at a recent Soviet official exchange rate of US$0.73 to the ruble - Tr./. There will be a trial run of about 50 kits late this year and serial production will begin next year.

Reference data for calculating "Radio" satellite passes, based on 7, 14, 21, and 28 May are given below. For the first orbit for each of these days, the orbit number, time (UT), and ascending node longitude are given. "Radio-5": 6090-1.23-241, 6174-0.46-242, 6258-0.08-244, 6343-1.30-275. "Radio-6": 6133-1.27-246, 6218-1.38-260, 6303-1.49-273, 6387-0.01-257. "Radio-7": 6108-0.45-233, 6193-1.37-256, 6277-0.29-250, 6362-1.21-274. "Radio-8": 6079-0.45-230, 6163-0.25-236, 6247-0.05-241, 6332-1.45-277.

"Collective Station for Young People," by Yu. Syromolotov. Photo, by A. Konovalov: V. Chulkov checks the operation by I. Samatova at the collective station of the Pioneer Camp "Young Cosmonaut." /Story about a Moscow club located in an apartment on Leningradskiy Prospekt. Its call-sign, UK3ACO, has also been used from the Pioneer Camp "Young Cosmonaut."/

"All-wave Shortwave Antenna," by I. Kisel', UA3AIC, Moscow. /Description and illustration./

Independent article "Our Guests," SP, 24 April 1983, p 4. /Full text./ Following the well-known, brilliantly-successful ski march to the North Pole in 1979, the members of the high-latitude expedition sponsored by the newspaper "Komsomol'skaya Pravda" are persistently getting ready for other marches.

Not long ago a detachment of the expedition returned from Antarctica headed by its radioman Leonid Labutin. While on the

sixth continent the members of the detachment carried out significant research work and performed a series of medical and technical experiments.

A few days ago the chief of the "Komsomol'skaya Pravda" expedition, Dmitriy Shparo (right, in the photo) and Leonid Labutin visited our editorial offices. They told of the work done in Antarctica and of their plans for the future.

NLD-1005, 27 April 1983.

Competitions.

In May the following competitions will take place on shortwave: 7 - 8 May: CQ-M Contest (c.w. and SSB). 28 - 29 May: CQ WW WPX Contest (c.w.). In May the ITU Contest (telephone and telegraph) usually also takes place, but as of this writing information on this year's competitions have not been received.

The CQ-M Contest will take place from 2100 UT 7 May to 2100 UT 8 May on the bands 1.85 - 28 MHz. Call CQ-M. SSB and c.w. but mixed QSO's don't count. CQ may only be transmitted in the following segments: 1,855 - 1,875 kHz, 3,505 - 3,600 kHz, 7,005 - 7,040 kHz, 14,010 - 14,100 kHz, 21,010 - 21,150 kHz, and 28,010 - 28,200 kHz on c.w.; 1,875 - 1,950 kHz, 3,600 - 3,650 kHz, 7,040 - 7,100 kHz, 14,150 - 14,350 kHz, 21,200 - 21,450 kHz, and 28,400 - 29,100 kHz on 'phone. Also counted are contacts made via radioamateur satellites equipped with repeaters from the 144 MHz band to the 28 MHz band; in these competitions these contacts are regarded as QSO's made on an additional band (in particular, they provide a corresponding multiplier). The control number consists of the oblast' number (for Soviet radioamateurs) or the sequential number (for foreign participants), preceded by RST or RS. A contact within the same continent counts one point and with another continent three points. Each country or territory of the world provides one point for the multiplier on each band. For Soviet sportsmen contacts within the USSR don't count. Foreign radioamateurs may make one contact within their own country for country count, but no points are credited for the QSO. Repeat QSOs /QSO's with the same station - Tr./ are only permitted on different bands regardless of mode of emission. Observers receive 3 points for two-way observations and 1 point for one-way observations (both calls and one control number received). Sportsmen compete in the following subgroups: One operator - one band, one operator - all bands, several operators - all bands - one transmitter, and observers. Collective stations may only compete in the second-to-last subgroup. Winners will be determined separately among Soviet and foreign participants in the competitions. All Soviet sportsmen making 100 contacts or more will be given commemorative pins. Reports, on the regular form, are to be sent to the CRC not later than 1 MAY July.

Club News.

In the third round of the "Pobeda-40" ("Victory-40") radio-expedition, the following stations will operate from Kurskaya, Orlovskaya, and Belgorodskaya Oblasts 7 through 9 May and 5 July through 5 August: U3EKR, U3EKM, U3MKR, U3WP, U3WS, U3ZKF, and U3ZTP.

At present the Soviet antarctic stations are very active: 4K1A (operators UA1CAV and UA4HOV, QSL via UA1CAV), 4K1C (operator UA6LHK, QSL via UK6LAZ, same operator uses 4K1B), 4K1F (operators

UA3GM and UQ2GDW, QSL via UQ2OC). Y83ANT (operator Y44YK, QSL via Y44ZK) is operating from Novolazarevskaya Station.

4K1F usually operates from 1900 to 2200 UT on 14,027 kHz and from 0330 to 0500 UT in the lower portion of 7 MHz /presumably in the lower portion of the 7.0 - 7.1 MHz range - Tr./ band. Information from UA3ANO and UQ2OC.

/Correct spelling of QTH mentioned at end of next-to-last paragraph: Novolazarevskaya Station. Tr./

NLD-1006, 4 May 1983.

In the FRS of the USSR. "In memory of those who perished in the Great Fatherland War all Soviet radio amateur stations will cease operation on 9 May for five minutes -- from 1200 to 1205 MSK."

Club News and Diplomas.

From 10 through 13 May activity days will be held commemorating the 50th anniversary of the Chelyabinsk Tractor Plant. Applications for the /internal/ diploma issued for this event may be sent to: 454007, Chelyabinsk, ab./yashch. 480 (P. O. Box 480, 454007 CHELYABINSK).

As part of the "Pobeda-40" ("Victory-40") radioexpedition, the operation "Search" /"Poisk"/ has begun, the purpose being to locate all shortwavers and ultrashortwavers who participated in the Great Fatherland War. A "round table" takes place Sundays on 14,140 kHz at 1200 MSK and all radioamateurs who participated in the Great Fatherland War are invited to join in, as are those possessing information on this matter.

Independent article, SP, 4 May 1983, p 4; "7 May -- Radio Day: RADIO AMATEURS REPORT," by V. Bondarenko*, chief, Central Radio Club of the USSR named after E. T. Krenkel', member of the presidium of the Federation of Radio Sport of the USSR.

Soviet radioamateurs greet Radio Day with new successes in work and sport. The Height of radioamateur creativity in recent years is represented by the creation by radioamateurs and radioconstructors of two generations of artificial Earth satellites -- "Radio 1 - 2" and "Radio 3 - 8" -- six of which are functioning in orbit today. This and many other achievements testify to the great creative potential of the constructors' thinking. Thus, just in the past 5 years the economic effect of the most important designs amounts to several million rubles.

DOSAAF radioamateur-constructors share their successes with the radioamateurs of the socialist countries, traditionally inviting them to the all-union radio exhibitions (the regular one takes place at the All-Union Economic Achievements Exhibition of the USSR from 13 May through 3 June of this year) and also demonstrating Soviet exhibits at their radio exhibitions.

All forms of radiosport are being developed in the country. The most popular remains speed radiotelegraphy, with 170,000 participants. Sport radio direction-finding /sportivnaya radiopelengatsiya/, with 73,000 participants, is developing fast. Radio mixed events, with 53,000 participants, includes technical and physical elements, and in that lies its value.

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*Vasiliy Mikhaylovich Bondarenko, UV3BW.

Today in the country between 30,000 and 35,000 competitions are conducted annually. Soviet radiosportsmen in the form of mixed teams of the USSR /sbornyye komandy SSSR/ regularly compete in all-international competitions involving in-place forms of radio sport /po ochnym vidam radiosporta/, occupying in them a solid leadership position.

A most important event for Soviet radiosportsmen in 1981 - 1983 has been the VIIIth Summer Spartacade of the Peoples of the USSR, taking place in three stages. The conduct of the final stage this year is today the greatest part of the work of the collective of the CRC.

The over half-a-century old form of radiosport, radiocommunication on shortwave, must occupy a special place in the activities of local DOSAAF organizations, federations of radio sport and sport clubs. In the last decade, both qualitative and quantitative improvements have been made in shortwave radiosport. Thus, the number of amateur stations in the countries has more than doubled, and technical ecuipment and operating skill have improved sharply. In 1982 alone, radiosportsmen won 65 first places, 55 second, and 54 third.

The FRS, CRC, and many local FRS's and DOSAAF sport clubs have established a large quantity of diplomas /certificates/ marking important events in the history of the Country of Soviets and in memory of heroes of the Great Fatherland War. The international shortwave competitions "Miru - Mir" /"To the World, Peace"/ /known as the "CQ-M" contest - Tr./ are very popular, as are the all-union competitions for the Hero of the Soviet Union E. T. Krenkel' prize and the women-shortwavers' competitions for the Hero of the Soviet Union Yelena Stempkovskaya prize. The "Pobeda-40" /"Victory-40"/ All-Union Radio Expeditions are enthusiastically participated in.

Thus we have the right to say on this Radio Day that Soviet radiosport is on the rise and that Soviet radioamateurs are determined to successfully fulfil the important and responsible tasks set by the IXth All-Union DOSAAF Congress on the further development of amateur radio and radiosport.

Independent article, SP, 11 May 1983, p 4: "VICTORY KEY," by P. Gonchar-Zaykin. Vladimir Mashunin has won the championship in sport radiotelegraphy held in Sverdlovsk. His father, Nikolay Aleksandrovich Mashunin, sat him down at a telegraph key when he turned 8; at 11 the son became a candidate master of sport and at 14 a master of sport. (For reasons of health, Nikolay Mashunin, an engineer, had to leave his profession of ship radioman, but his interest in amateur radio remained and today he heads the federation of radio sport of Brest Oblast'.) Years went by, and Vladimir's skills increased. He became the best in Brest and in Belorussia, but in the USSR championships he yielded to the well-known, many-times champion of the USSR Stanislav Zelenov. "I didn't have enough psychological preparation," says Vladimir, "although at that time I could receive and send 260 characters a minute." And so at the finals of the spartacade Vladimir was able to overcome his stress, helped a great deal by an electronic key he made together with his father. Ivan Markovich Chevelev, the chief of the DOSAAF technical sport club of Belorussia, praised the new champion and predicted many new victories if he can

overcome the ordeal of glory. Mashunin received gold medals as champion of the spartakade and as national champion, as well as memorial prizes awarded by the Sverdlovsk Komsomol Oblast' Committee and by "Radio" magazine. He also accepted a gold medal awarded to his father as the trainer of the champion of the VIII Spartacade of the Peoples of the USSR and the XXXV National Championship.

NLD-1007, 11 May 1983.

Competitions.

Soviet stations did well in the WA-Y2 Contest. In the category of individual stations, UB5MDL came in 1st, UA1AHZ 2nd, UA3DCZ 3rd, UB5MLP 7th, UA3LAR 9th, and UO5OWC 10th. In the collective station category UK6LAZ came in 1st, UK2BBB 2nd, UK4WAB 3rd, UK2PAP 4th, UK2GBL 5th, UK5MCO 6th, UK5IAZ 8th, UK1AAW 9th, and UK1AFA 10th. ...

In the c.w. AA DX Contest, UK6LEZ made the highest score on the European continent in the multi-op category. In Europe, the highest individual-station score was made by OH2BH, and in Asia UL7MAR. JA2YKA led among collective-station teams.

Distant Stations. ... Beginning 22 May new telephone segments will be introduced in the USA on the 20-meter band. Stations of the highest class will be able to use the segment 14,150 - 14,350 kHz for 'phone contacts, stations of the "advanced" class 14,175 - 14,350 kHz, and stations of the "general" class 14,225 - 14,350 kHz. ...

Diplomas. The FRS of Moscow City reminds those applying for the "Moscow" diploma that stations must be listed in alphabetical order of rayons; the former Cheremushkinskiy rayon of the capital (abbreviation TsKh) has been renamed Brezhnevskiy rayon (BR) -- the name or abbreviation that was transmitted in the course of the contact should be used.

Independent article, SP, 18 May 1983, p 4: "CREATORS OF RADIO-ELECTRONICS," by S. Svetlanov. Attending the opening of the 31st All-Union Exhibition of Creations of DOSAAF Radioamateur Constructors at the economic achievements exhibition grounds in Moscow were Fleet Admiral G. Yegorov, Chairman of the DOSAAF/USSR Central Committee and Hero of the Soviet Union; Minister of Communication of the USSR V. Shamshin; guest of honor A. Vatanzhar, Member of the Politburo of the Central Committee of the People's Democratic Party of Afghanistan and Minister of Communication of Afghanistan. Yu. Zubarev, Chairman of the Federation of Radio Sport of the USSR and Deputy Minister of Communication of the USSR opened the exhibition, which contained over 650 exhibits by radioamateur constructors from 11 union republics, Moscow, and Leningrad. ... The radioconstructors from the DOSAAF Space Technology Laboratory /laboratoriya kosmicheskoy tekhniki DOSAAF/ displayed a mock-up /? - maket/ of a radioamateur satellite from the "Radio-3" - "Radio-8" series. Along side was the retransceiver "Nartsiss-2" designed by the Tashkent Master Radioconstructor A. Kushnirov, UI8ABF, Master of Sport of the USSR. This is a great piece of equipment, specifically intended for operation via the "Radio"

satellites and containing a memory, a digital indicator, an automatic keyer, and a number of other features. In the same section devoted to radiosport was a shortwave transceiver by V. Skrypnik, an ultrashortwave/shortwave transceiver by V. Beketov, a display by V. Bagdyan, transmitters for sport radio-direction-finding by Ye. Sukhoverkhov, and a lot of other very interesting equipment.

NLD-1008, 18 May 1983.

Ultrashortwaves.

An ultrashortwave beacon /UKV mayak/ built by the collective of UK4HCF in Zhigulevsk, Kuybyshevskaya Oblast', has begun operation on 144,223 kHz. It is located in square YN48c, operates with 5 watts of power, and has a colinear antenna with vertical polarization and a gain of about 4 dB. The beacon transmits call-sign, CTH locator, and an eight-second carrier; it operates around the clock. A 430 MHz beacon is planned in the near future. Submitted by V. Polozhay, UA4HHI, chief of radiostation UK4HCF.

The sport-scientific experiment "Radioaurora" (see NLD-964 and the April edition of "Radio" magazine) has reached an intermediate cut-off stage, and reports should be sent off to the editorial offices of "Radio" magazine before 25 May (containing data on "aurora" operation through 30 April). The editorial office has a new address: 123424, Moskva, Volokolamskoye shosse, 88, stroyeniye 5, redaktsiya zhurnala "Radio." /English equivalent address form: Editorial Office of RADIO Magazine
Building 5
88 Volokolamskoye Shosse
123424 MOSCOW /

Of particular interest are data on signal fading during aurora radiowave propagation, for which it is important to know the overall length of the path (based on CTH and CTF) and the signal-to-noise ratio in dB (and if possible also the noise level itself in dBm or kT_o units) and also the effective radiated power taking into account losses in the feeder. Of interest also is the maximum time during which aurora propagation exists at various latitudes. For this reason information on the time during which the opening was actually observed, and not just the fact of having established communications, will be evaluated. Contributed by S. Bubennikov.